Amendment to the Specification

Replace the paragraph starting on page 2, line 4 with the following:

G.SHDSL (Global.Standard High Bit Rate Digital Subscriber Line) is a standard that enables manufacturers and other entities to develop Central Office (CO) loop access equipment and Customer Premises Equipment (CPE) around a single standard, thereby increasing market share and decreasing component costs. As a symmetric multi-rate DSL, G.SHDSL can operate over a single pair of copper wires. For speed versatility, the technology can also be deployed over dual copper pairs. G.SHDSL has associated with it a global standard developed by the International Telecommunications Union's (ITU) Telecommunications Standards Sector based in Geneva. Higher bit rate and longer copper transmission line (or loop) are additional factors that strengthen G.SHDSL.

Replace the paragraph starting on page 21, line 11 with the following:

If the SNR is calculated in the time domain, a method to compute the capacity may include measuring the silence power (noise), P_{noise}, and then the received power (signal + noise), $P_{signal+noise}$, and finding the capacity, C, using the equation below.

$$C = B\log_2\left(1 + \frac{P_{signal}}{P_{noise}10^{\frac{(\Gamma-G+\gamma+\delta)}{10}}}\right) = B\log_2\left(1 + \frac{SNR}{10^{\frac{(\Gamma-G+\gamma+\delta)}{10}}}\right)\frac{bits}{second} \qquad (30)$$

where Γ represents a gap from a theoretical channel capacity for PAM (Pulse Amplitude Modulation) signals, in dB; G represents a coding gain of a Trellis decoder in dB; B represents a transition bandwidth; γ represents a required margin in dB (e.g., G.SHDSL Annex B margin is approximately 6 dB); and δ represents an implementation loss in dB.

On page 61, line 1, replace "CLAIMS" with "We Claim"